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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/963,674 | 09/27/2001 | Kenji Ohmori | 011020 | 8984 |

23850 7590 11/06/2002

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EXAMINER

PAULRAJ, CHRISTOPHER

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1773

DATE MAILED: 11/06/2002

4/

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/963,674

Applicant(s)

OHMORI ET AL.

Examiner

Christopher G. Paulraj

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claims 10-12 are objected to because of the following informalities: The claims repeat exactly what is recited in claim 9. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. The term "highly weather resistant" in claims 1-12 is a relative term which renders the claims indefinite. The term "highly weather resistant" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.
5. The term "iron-based" in claims 1-12 renders the claims indefinite. One of ordinary skill in the art would not be able to reasonably ascertain exactly how much iron content must be in the magnet powder in order for it to qualify as "iron-based." For example, can a magnet powder in which iron is present in only minute quantities (i.e., as impurities) qualify as being "iron-based?" The terms "Nd-Fe-B based" and "Sm-Fe-N

based” in claims 2-3 and 6-7 additionally render the claims indefinite for similar reasons. It is unclear whether or not additional elements can be included within the alloy powder.

6. Claims 3 and 7 require that the particles of said Sm-Fe-N based alloy powder are uniformly coated with a zinc film. Since the parent claims require that the powder already comprises uniform coating with a phosphate film, it is unclear whether the zinc and the phosphate are to be part of the same coating film. Otherwise, the order in which the zinc and the phosphate films are to be coated onto the Sm-Fe-N based alloy powder is not clearly specified.

7. Claims 4 and 8 recite that the coating film comprises iron phosphate in an Fe/rare earth element ratio of 8 or more. It is unclear whether the “Fe” being referred to is the iron in the “iron-based magnet powder,” the iron in the “iron phosphate,” or both. It is also unclear what type of ratio is being referred to within the claims (weight, molar, etc.).

8. Claim 5 requires that the resin composition comprise “as the main ingredient” the highly weather-resistant magnet powder. However, it is unclear how much magnet powder must be within the claimed resin composition for it to qualify as the “main ingredient.”

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi (U.S. Patent 5,453,137).

Takahashi discloses a material for a permanent magnet that comprises an iron based magnet powder that comprises a rare earth element and is uniformly coated with a phosphate layer (abstract, col. 2., lines 1-14). The iron powder can have a diffused layer of Fe.Nd.B.X (col. 2, line 7). The iron powder can be included within a resin composition to form a bonded magnet (col. 6, lines 1-7). Since the width of the entire iron powder can be about 90 nm (col. 6, lines 23), the coating layer of aluminum phosphate is considered to meet the claimed thickness requirement of 5 to 100 nm for the phosphate film.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi.

Even if the aluminum phosphate layer of Takahashi does not inherently meet the claimed thickness, one skilled in the art would have found it obvious to adjust the

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thickness to within the claimed range of 5 to 100 nm. The motivation for doing so would have been to optimize the residual maximum flux density of the magnet (see col. 7, lines 32-67).

13. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinichi et al. (JP 2000-058312). Page and paragraph numbers refer to the English translation.

Shinichi et al. discloses a composition for a resin bonded magnet constituted of an alloy powder such as Nd-Fe-B (page 2, ¶ 13) coated on its surface with a phosphate film comprising two or more phosphates including iron phosphate (page 2, ¶ 14). In the absence of establishing criticality or unexpected results, one skilled in the art would have found it obvious to adjust the thickness of the phosphate and the Fe/rare earth element ratio to within the claimed ranges. The motivation for doing so would have been to optimize the magnetic properties of the powder.

14. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohashi (EP 0 430 198 A2) in view of Takahashi and Shinichi et al.

Ohashi discloses a highly corrosion resistant rare-earth element (e.g. neodymium) based sintered permanent magnet which comprises a crushed magnetic alloy powder having an apparent density of at least 95 % of the intrinsic density (abstract). The powder can be made of Nd-Fe-B material (page 2, line 8). The sintered magnet can then be coated with a layer of zinc phosphate material (page 3, lines 2-3). One skilled in the art would have found it obvious to individually coat the powders of Ohashi with the zinc phosphate coating in the manner disclosed by Takahashi and

Shinichi et al. the motivation for doing so would have been to optimize the corrosion resistance of the magnet.

Information Disclosure Statement

15. Receipt of Information Disclosure Statement filed on January 11, 2002 is acknowledged and has been made of record. Foreign language documents were only considered to the extent of what their English abstracts provided.

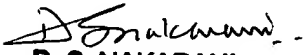
Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher G. Paulraj whose telephone number is (703) 308-1036. The examiner can normally be reached on Monday-Friday, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (703) 308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0661.

cgp
November 4, 2002


D. S. NAKARANI
PRIMARY EXAMINER, Acting SPE